

REMARKS

Initially, Applicants would like to thank the Examiner for acknowledging consideration of each of the documents cited on a Form PTO-1449 submitted with an Information Disclosure Statement on December 21, 2006. Applicants would also like to thank the Examiner for acknowledging Applicants' claim for priority under 35 U.S.C. §119, as well as receipt of the document upon which the claim for priority is based.

In the outstanding Office Action, Figures 8-10 were objected-to as lacking a designation as "Prior Art", and Figure 2 was objected-to for an informality. Claims 1-2 and 5-6 were rejected under 35 U.S.C. §103(a) over MASAKAZU (JP Hei 10-090300) in view of KEICHI et al (JP Hei 6-340452). Claims 3-4, 7-8 and 10-11 were rejected under 35 U.S.C. §103(a) over MASAKAZU in view of KEICHI, and further in view of KATSUMI (JP Hei 9-196700). Claim 9 was rejected under 35 U.S.C. §103(a) over MASAKAZU in view of KEICHI, and further in view of KATSUMI.

Applicants traverse the objections to Figures 2 and 8-10. In this regard, upon entry of the present amendment, Applicants will have submitted replacement Figures 2 and 8-10. Spelling of the term "CUTTING" is corrected in replacement Figure 2, and Figures 8-10 are each labeled "Prior Art". Accordingly, reconsideration and withdrawal of the objections to the Figures is respectfully requested.

Upon entry of the present amendment, each of the claims will have been amended. The herein-contained amendments should not be considered an indication of Applicants' acquiescence as to the propriety of any outstanding rejection. Rather, Applicants have amended the claims in order to advance prosecution, obtain early allowance of the claims, eliminate noted

informalities and eliminate the possibility that features in the claims are interpreted as steps-of or steps-for recitations.

Applicants traverse each of the rejections under 35 U.S.C. §103. In this regard, amended claim 1 is directed to a method for manufacturing a semiconductor physical quantity sensor... in which mutually facing peripheral bonding areas of an insulating substrate and a semiconductor substrate are contacted for anodic bonding, while both substrates have an anodic bonding voltage applied therebetween so as to be integrated by anodic bonding, with a fixed electrode being formed on a bonding face-side surface of the insulating substrate, and with a movable electrode being formed on a bonding face-side surface of the semiconductor substrate. The method recited in claim 1 includes forming, before the anodic bonding, an equipotential wiring to short-circuit the fixed electrode to the movable electrode on the bonding face-side surface of the insulating substrate inside the bonding area, and to be prevented from being directly sandwiched between the both substrates. The method recited in claim 1 also includes performing the anodic bonding; and cutting and removing the equipotential wiring after the anodic bonding.

It appears the rejection of claim 1 is based on an interpretation of MASAKAZU as disclosing the arrangement of equipotential wiring on the bonding face-side surface of the substrates, such that modification of such an arrangement with cutting as in KEICHI is considered to obtain the combinations of features recited in claim 1. This interpretation of MASAKAZU and KEICHI is incorrect.

In MASAKAZU, a fixed electrode 9 and a movable electrode 7 are not equipotential in anodic bonding. Thus, discharge (surface discharge) may occur between the two electrodes when a high voltage is applied for anodic bonding. In contrast, according to claim 1, a fixed electrode is set equipotential to the movable electrode by the forming of equipotential wiring, so

that the two electrodes are protected from the high voltage for the anodic bonding. These features of the method in claim 1 prevent discharge as in MASAKAZU from occurring. As MASAKAZU does not disclose any such forming of equipotential wiring to short-circuit the fixed electrode to the movable electrode (i.e., on the bonding face-side surface of the insulating substrate inside the bonding area), modification of MASAKAZU with teachings of KEICHI in the manner proposed in the Office Action would not result in the combination recited in claim 1.

Furthermore, KEICHI requires exposing connection wiring 75 in advance for the purpose of cutting the connection wiring 75 by laser. In order to expose the connection wiring 75 in KEICHI, processing (cutting) the glass member 80 in advance is also required, because the anodic bonding is normally done by a wafer process. In contrast, the invention to which claim 1 is directed does not require such exposure of the wiring.

Moreover, in KEICHI, the connection wiring 75 is cut when trimming (dividing and removing) a silicon structure or semiconductor substrate. The connection wiring 75 and the silicon structure are cut at the same time, so that a high laser power is required. In contrast, a high laser power is not required in the invention to which pending claim 1 is required, because only the equipotential wiring need be cut, and not a semiconductor substrate 1.

As set forth above, modification of MASAKAZU with the teachings of KEICHI would not result in the combination recited in claim 1. Accordingly, claim 1 is not rendered obvious by any proper combination of MASAKAZU and KEICHI. Claims 5 and 9 each include recitations similar to one or more of those in claim 1 which are not disclosed by either MASAKAZU or KEICHI, alone or in any proper combination. Accordingly, each of independent claims 5 and 9 are allowable for reasons similar to those set forth above with respect to claim 1.

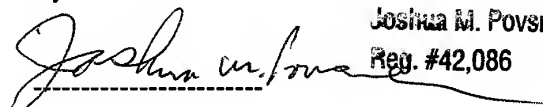
Further, with respect to independent claim 5, the equipotential wiring shown in Figures 8-10 of the present application is formed on the insulating (glass) substrate, and not on the semiconductor substrate. This arrangement is representative of the arrangement shown in MASAKAZU, and therefore MASAKAZU does not disclose the arrangement of equipotential wiring on the bonding face-side surface of a semiconductor substrate as in claim 5. Accordingly, modification of MASAKAZU with cutting as in KEICHI would not result in the combination recited in claim 5 for these additional reasons.

As set forth above, each of independent claims 1, 5 and 9 is allowable over the documents applied in the outstanding Office Action. Dependent claims 2-4, 6-8 and 10-11 are allowable at least for depending, directly or indirectly, from an allowable independent claim, as well as for additional reasons related to their own recitations. Accordingly, reconsideration and withdrawal of each of the outstanding rejections and objections is respectfully requested.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attached thereto.

Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
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